Electronic vs. Digital data

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Bernadette Bosse
Chairman and CEO (CDDMA)/President and CEO dms360 Ltd/Director, President dmeHolistic Inc/LION
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We have all been talking about the "electronic age", but when it comes to our information, there is a big difference between "electronic" and "digital".

Information is often both electronic and digital, but there is some that is only electronic and some that is only digital. Understanding the difference, and where the cross over is is vital to being able to establish a workable structure to manage your organization's data.

It is important here not to confuse what users of information call "electronic data" and what the courts would deem "electronic", because the courts see "electronic data" as all

> data that are live, online on servers, desktops, laptops, and so forth, at the time of expected litigation...also, data that are well documented and organized, such as indexed backup tapes...

[Electronically Stored Information by David Robert Matthews 2013].

But let us take a look at the working world, where the data is used on a day to day basis.

And a side note for those who care, data is typically the plural of datum, but only when it can be defined as a fact (count noun), data as a singular is acceptable when it is a replacement for "information" (mass noun).

Electronic data is typically in the form of documentation that is static. It is a file - whether workable or not. The majority of distributed documentation should be in a non modifiable format, such as a .pdf file, either scanned with signatures, or rendered from the modifiable format. The files are electronically tangible, you can see them, work with them, update them.

Digital data on the other hand, while it may also be manipulated and seen (and could even be printed as a document), is bytes of information that is integrated across different systems, or can have cause and effect on physical industrial components. It includes the metadata of any object, normally the data about an electronic file.

Let's have an example:

An operating organization uses a software platform to create a unique ID number for a instrument on a site, commonly this is called a tag number. There are a number of documents (stored in a separate software platform) and other bits of digital information that pertains to this tag number; the documents that come if from the supplier of the instrument, the design information on a data sheet, the maintenance schedule, the inventory and restocking information, the maintenance instructions, the shutdown or isolation procedure, the design drawings it appears in, and more. The tag number is digital, the maintenance software's programmed schedule is digital, and even the program that runs the automated shutdown of the site is digital. The data sheet, however, is both digital and electronic - there is a signed electronic .pdf of the data sheet, an electronic Excel file of the data sheet, and the information fields inside the data sheet could be extracted from the Excel file and put into the maintenance software as digital data.

We cannot go completely digital. There are regulatory agencies that demand hard copies that are signed with a pen, and those signed copies need to be electronically distributed showing the signatures, while keeping the signed hard copy (the original) safe in the event the courts need to see it. We, as humans, can also not interface with a purely digital world, and the software that is currently available cannot manage a solely digital world. Documentation is not going anywhere any time soon.

BUT, the unification and proper use of both electronic and digital data is the key to success!